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Revitalizing the Aviation Electronics Technology Program through Industry-Aligned Strategies

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Abstract

This study examined the relevance of the Aviation Electronics Technology (AET) program to the competencies and workplace requirements of graduates employed in aviation-related organizations. Specifically, it assessed graduates' perceptions of their knowledge and performance competencies and evaluated their perceptions of the program's curriculum, faculty, and training facilities. A quantitative descriptive research design was employed, involving 30 AET graduates with at least one year of industry experience. Respondents were selected through snowball sampling, and data were gathered using a structured questionnaire validated by aviation experts. Descriptive statistics, including frequency, percentage, and weighted mean, were used to analyze the data, while nonparametric tests were applied to determine differences in competency assessments when respondents were grouped according to professional and employment-related characteristics. Results showed that graduates perceived their knowledge competencies and performance competencies as relevant to their industry responsibilities. They also expressed generally positive assessments of the curriculum, faculty, and training facilities. However, opportunities for improvement were identified in digital avionics and data bus architectures, practical training, instructional strategies, and the alignment of laboratory equipment with current industry technologies. Furthermore, the statistical analyses revealed no significant differences in the assessed competencies across the examined respondent groups. Based on these findings, the study proposes industry-aligned strategies focusing on curriculum enhancement, faculty capability development, modernization of training facilities, stronger industry collaboration, and expanded experiential learning. The study concludes that continuous program evaluation and industry engagement are essential to maintaining the relevance of AET education and strengthening graduates' preparation for the evolving demands of the aviation industry.

Keywords: Aviation Electronics Technology, aviation education, graduate competencies, curriculum enhancement, industry alignment, experiential learning

I. INTRODUCTION

Avionics, which encompasses the electronic systems used in aircraft for communication, navigation, monitoring, and control, has become increasingly important as aviation technology continues to advance. The integration of digital systems, automated technologies, and interconnected aircraft components has changed the technical demands placed on aviation maintenance personnel. Consequently, aviation education institutions must ensure that their programs develop the knowledge and practical competencies required to install, inspect, maintain, and troubleshoot modern aircraft electronic systems. Recent research

has emphasized the need for aviation maintenance education to respond to emerging technologies and evolving workforce requirements (Chavan et al., 2025).

Competency-based training and assessment provide an important foundation for preparing personnel to meet these technical demands. The International Civil Aviation Organization (ICAO, 2020, 2021) emphasizes structured training and competency development in aviation, including the knowledge and practical abilities necessary for aircraft maintenance. Similarly, Majid et al. (2021) highlighted the need to restructure avionics engineering curricula to address contemporary technological requirements and future challenges. These developments indicate that aviation education programs must continuously evaluate their curriculum, instructional approaches, faculty competencies, and training resources to maintain their relevance to industry practices.

In the Philippines, aviation education has developed through institutions offering programs that prepare students for various technical and maintenance-related careers. The National Aviation Academy of the Philippines (NAAP) and PATTS College of Aeronautics are among the institutions contributing to this educational landscape. Their institutional histories provide a background for understanding the development of aviation education and training in the country (National Aviation Academy of the Philippines, n.d.; PATTS College of Aeronautics, n.d.). Within this context, the Aviation Electronics Technology (AET) program plays an important role in preparing students for specialized work involving aircraft electronic systems. Its relevance, however, depends on how effectively its curriculum and training provisions respond to the changing technical requirements of the aviation industry.

Despite the importance of aviation-related technical education, maintaining alignment between academic preparation and industry requirements remains a continuing concern. Dela Peña et al. (2025) examined competency gaps in Philippine aviation maintenance education and highlighted the importance of addressing the competencies required in actual maintenance environments. Similarly, Chavan et al. (2025) discussed emerging technologies and their implications for aviation maintenance education and workforce preparation. These studies demonstrate the need for continuous curriculum development, access to appropriate training resources, and stronger collaboration between educational institutions and industry. However, the findings of these studies do not specifically establish the extent to which AET programs address the knowledge and performance competencies expected of aviation electronics technicians.

At the institutional level, the need to strengthen the AET program is also motivated by enrollment concerns. In the researcher's institutional setting, enrollment in AET has been observed to be comparatively lower than in the Aircraft Maintenance Technology (AMT) program. This observation highlights the importance of examining the program's relevance, particularly its capacity to provide students with competencies that correspond to industry expectations. Strengthening the program requires more than updating course content; it also involves assessing faculty capabilities, training facilities, practical learning opportunities, and opportunities for meaningful industry engagement.

Although previous studies have addressed aviation maintenance education, competency development, and curriculum alignment, there remains a need for context-specific assessment focusing on the Aviation Electronics Technology program. In particular, examining both the competencies required in the industry and the perceptions of graduates regarding existing curricular provisions can provide a basis for identifying areas that may require improvement. This is important because a program's perceived relevance should be considered alongside the knowledge and practical competencies expected in actual aviation workplaces.

In response to this concern, the present study aims to develop industry-aligned strategies for revitalizing the Aviation Electronics Technology (AET) program. Specifically, it examines the respondents' demographic profile in terms of years of industry experience, current occupational position, and aviation industry sector; determines their assessment of industry-required knowledge and performance competencies; and evaluates their perceptions of the existing AET program in terms of curriculum, faculty, and facilities. It also examines whether assessments of required competencies differ when respondents are grouped according to their demographic profiles. Based on the findings, the study proposes strategies to address identified improvement areas and strengthen the alignment of the AET program with industry requirements.

The study seeks to contribute to the continuing development of aviation technical education by providing an evidence-informed basis for curriculum enhancement, faculty development, training facility improvement, industry collaboration, and experiential learning. Through these efforts, the AET program may become more responsive to technological developments and the competency expectations of the aviation industry.

II. METHODOLOGY

This study employed a quantitative descriptive research design to examine the industry-required knowledge and performance competencies of Aviation Electronics Technicians and assess the perceptions of aviation industry practitioners regarding the existing Aviation Electronics Technology (AET) program. The respondents consisted of AET graduates who had been employed in the aviation industry for at least one year. Due to the specialized nature and limited accessibility of the target population, snowball sampling was utilized to identify qualified participants. The researcher initially contacted known AET graduates working in aviation-related organizations, who were then encouraged to refer other individuals who met the study's inclusion criteria. Data were gathered using a structured survey questionnaire administered online through Google Forms. The instrument consisted of three parts: (1) the respondents' demographic profile in terms of years of industry experience, current occupational position, and aviation industry sector; (2) the knowledge and performance competencies required of Aviation Electronics Technicians, rated according to their relevance to industry practices; and (3) the respondents' assessment of the existing AET curricular offerings in terms of curriculum, faculty, and facilities. Prior to administration, the questionnaire underwent content validation by selected experts in education, research, and aviation.

The collected data were organized and processed using Microsoft Excel. Frequency counts and percentages were used to describe the respondents' demographic characteristics, while weighted means were computed to determine the perceived relevance of the required knowledge and performance competencies and to assess the existing AET curricular offerings. Furthermore, the Kruskal–Wallis H test was employed to determine whether statistically significant differences existed in the respondents' assessments of the required knowledge and performance competencies when grouped according to years of industry experience, current occupational position, and aviation industry sector. This nonparametric test was used to compare assessments across independent groups based on the Likert-scale responses. The level of statistical significance was set at 0.05. The results of these analyses served as the basis for identifying areas for improvement and formulating industry-aligned strategies for strengthening the AET program.

III. RESULTS AND DISCUSSION

Table 1. Demographic Profile of the Respondents

Profile	Frequency	Percentage
Age		
1-2 years	17	56.70
3-5 years	9	30.00
6-10 years	2	6.70
More than 10 years	2	6.70
Position	2	6.70
Avionics Mechanic	21	70.00
Avionics Technician	1	3.30
Avionics Specialist	5	16.70
Avionics Instructor	1	3.30
Avionics Engineer		
Aviation Industry Sector		16.70
Commercial Aviation	5	20.00
General Aviation	6	36.70
Maintenance, Repair,&	11	16.70
Overhaul	5	10.00
Approved Training	3	36.70
Organization		
Aerospace Manufacturing		

Table 1 shows the table presents the demographic profile of the 30 respondents in terms of years of industry experience, current position, and aviation industry sector. In terms of years of industry experience, the majority of the respondents had 1–2 years of experience, comprising 17 respondents or 56.70%, followed by those with 3–5 years of experience, with 9 respondents or 30.00%. Meanwhile, 2 respondents or 6.70% had 6–10 years of experience, and another 2 respondents or 6.70% had more than 10 years of experience. This indicates that most respondents were relatively new to the aviation industry, although their professional experiences provided relevant insights into the competencies required in actual workplace settings. Regarding their current positions, the majority were Avionics Technicians, accounting for 21 respondents or 70.00%.

This was followed by Avionics Instructors with 5 respondents or 16.70%, Avionics Mechanics with 2 respondents or 6.70%, and Avionics Specialists and Avionics Engineers with 1 respondent each or 3.30%. This distribution suggests that the respondents were primarily engaged in technical and operational roles directly related to aircraft avionics systems. In terms of aviation industry sector, the largest group was employed in Maintenance, Repair, and Overhaul (MRO) organizations, with 11 respondents or 36.70%, followed by General Aviation with 6 respondents or 20.00%. Commercial Aviation and Approved Training Organizations each accounted for 5 respondents or 16.70%, while Aerospace Manufacturing had 3 respondents or 10.00%. This indicates that the respondents represented different sectors of the aviation

industry, with greater representation from MRO organizations, where avionics installation, inspection, maintenance, troubleshooting, and repair competencies are essential.

2. Basic Qualities of Aviation Electronics Technology (AET) as Required by the Industry

2.1. Knowledge Competencies

Table 2

Assessment of the Knowledge Competencies Required of Aviation Electronics Technicians

Indicators	Mean	Interpretation
1. Knowledge of aircraft communication systems (VHF, HF, SATCOM)	3.07	Relevant
2. Knowledge of aircraft navigation systems (VOR, ILS, GPS, INS)	3.23	Relevant
3. Knowledge of digital avionics systems and data bus architectures	2.83	Relevant
4. Knowledge of aircraft electrical power generation and distribution systems	3.07	Relevant
5. Knowledge of aviation regulations and safety standards related to avionics maintenance	3.10	Relevant
Overall Weighted Mean	**3.06**	**Relevant**

Table 2 shows that all identified knowledge competencies were considered relevant, with mean scores ranging from 2.83 to 3.23 and an overall weighted mean of 3.06. Knowledge of aircraft navigation systems obtained the highest mean (M = 3.23), followed by aviation regulations and safety standards (M = 3.10). Knowledge of communication systems and electrical power systems both obtained a mean of 3.07. These findings emphasize the importance of developing a strong understanding of aircraft systems and the safety requirements involved in avionics maintenance.

In contrast, digital avionics systems and data bus architectures received the lowest mean (M = 2.83), although still interpreted as relevant. This suggests an opportunity to strengthen the coverage of digital avionics in the AET curriculum. Thulasy et al. (2023) highlighted the growing importance of digital competencies among aircraft maintenance technicians in response to technological developments associated with Industry 4.0. Similarly, Güneş et al. (2026) identified technical knowledge as an important component of aircraft maintenance technician competency. These studies support the need to maintain foundational avionics instruction while incorporating updated digital technology concepts and applications.

Overall, the results suggest that the AET curriculum should continue developing students' knowledge of aircraft navigation, communication, electrical systems, and aviation safety while providing greater attention to digital avionics and data bus architectures. This may be addressed through updated course content and learning activities that expose students to integrated avionics technologies used in contemporary aircraft.

2.2. Performance Competencies

Table 3

Assessment of the Performance Competencies Required of Aviation Electronics Technicians

Indicators	Mean	Interpretation
1. Ability to install and configure aircraft avionics equipment	3.23	Relevant

2. Ability to troubleshoot and diagnose avionics system malfunctions	3.17	Relevant
3. Ability to perform maintenance and inspection of avionics systems	3.23	Relevant
4. Ability to interpret aircraft maintenance manuals, wiring diagrams, and technical documents	3.10	Relevant
5. Ability to apply proper safety procedures during avionics maintenance operations	3.13	Relevant
Overall Weighted Mean	**3.17**	**Relevant**

Table 3 presents the respondents' assessment of the performance competencies required of Aviation Electronics Technicians. All indicators were rated relevant, with mean scores ranging from 3.10 to 3.23 and an overall weighted mean of 3.17. The ability to install and configure aircraft avionics equipment and perform maintenance and inspection obtained the highest mean ratings (M = 3.23). These were followed by troubleshooting and diagnosing avionics system malfunctions (M = 3.17), applying proper safety procedures (M = 3.13), and interpreting maintenance manuals and technical documents (M = 3.10).

The results highlight the importance of practical technical abilities in avionics-related work, particularly installation, maintenance, inspection, and troubleshooting. Walter (2000) emphasized the value of structured on-the-job training in developing the competencies required in aviation maintenance and inspection. Likewise, the International Civil Aviation Organization (ICAO, 2021) promotes competency-based training and assessment that integrates technical knowledge, practical skills, and observable workplace performance.

Although documentation interpretation and safety procedures obtained comparatively lower means, they remain essential to effective maintenance operations. Technicians must be able to follow technical instructions, interpret wiring diagrams, and observe prescribed safety procedures when working with aircraft electronic systems. Heni (2020) also identified safety orientation as an important component of aircraft maintenance technician competency.

These findings suggest that the AET program should sustain practical training through laboratory exercises, equipment installation, troubleshooting activities, and maintenance simulations. Students should also be provided with opportunities to interpret technical manuals and apply safety procedures during practical activities. Strengthening these learning experiences may help align classroom instruction with the technical and operational requirements of aviation workplaces.

3. Respondents' Perceptions of the Current AET Program

3.1. Curriculum

Table 4
Respondents' Perceptions of the AET Curriculum

Indicators	Mean	Interpretation
1. The subjects offered in the AET curriculum are relevant to current avionics technologies used in the aviation industry.	3.33	Strongly Agree
2. The AET curriculum provides sufficient theoretical knowledge on modern avionics systems.	3.20	Agree

3. The program includes practical training that reflects real-world aviation maintenance practices.	3.13	Agree
4. The curriculum integrates recent developments in digital avionics and aircraft electronics.	3.27	Strongly Agree
5. The curriculum adequately prepares students for industry certification and professional requirements.	3.20	Agree
Overall Weighted Mean	**3.23**	**Agree**

Table 4 shows that respondents generally agreed that the AET curriculum is relevant to current industry requirements, as reflected in the overall weighted mean of 3.23. The relevance of subjects to current avionics technologies received the highest mean (M = 3.33), followed by the integration of recent developments in digital avionics and aircraft electronics (M = 3.27). Meanwhile, theoretical preparation and preparation for industry certification both obtained a mean of 3.20. Practical training received the lowest mean (M = 3.13), although it was still interpreted as Agree.

The findings indicate that the curriculum is positively perceived in terms of subject relevance and technological content. However, the comparatively lower rating for practical training suggests an opportunity to strengthen the application of theoretical concepts through laboratory activities and industry-related learning experiences. Dela Peña et al. (2025), in their examination of aviation maintenance education in the Philippines, discussed competency gaps and the importance of strengthening the alignment between educational preparation and industry requirements. Similarly, Chavan et al. (2025) highlighted the need to consider emerging technologies and changing workforce requirements when developing aviation maintenance curricula.

These findings suggest that curriculum improvement should focus on sustaining relevant subject content while strengthening practical training and exposure to current avionics technologies. Greater integration of hands-on activities and industry-related applications may help ensure that students acquire both the theoretical foundation and practical preparation needed for aviation electronics work.

3.2. Faculty

Table 5
Respondents' Perceptions of the Faculty of the AET Program

Indicators	Mean	Interpretation
1. AET instructors possess adequate knowledge of avionics systems and aviation technologies.	3.30	Strongly Agree
2. Faculty members demonstrate effective teaching strategies in delivering avionics-related subjects.	3.20	Agree
3. Instructors are capable of relating theoretical lessons to actual aviation industry practices.	3.26	Strongly Agree
4. Faculty members maintain professional development and industry exposure relevant to avionics.	3.23	Agree

5. Instructors provide sufficient guidance and supervision during laboratory and practical activities.	3.30	Strongly Agree
Overall Weighted Mean	**3.26**	**Strongly Agree**

Table 5 presents the respondents' perceptions of the faculty members of the AET program. The overall weighted mean of 3.26, interpreted as Strongly Agree, indicates a favorable assessment of faculty capabilities. The highest mean ratings were obtained for instructors' knowledge of avionics systems and aviation technologies and their guidance during laboratory and practical activities, both at 3.30. The ability to relate theoretical lessons to actual aviation industry practices followed with a mean of 3.26. Meanwhile, professional development and industry exposure obtained a mean of 3.23, while teaching strategies received the lowest mean of 3.20.

The results suggest that respondents recognize the technical knowledge of instructors and their capacity to guide students during practical activities. Nevertheless, the comparatively lower ratings for teaching strategies and professional development indicate areas that may benefit from continuous improvement. Yother and Ropp (2023) examined the challenges faced by aviation maintenance instructors and highlighted concerns involving the availability of qualified instructors and the professional demands of aviation maintenance education. Their findings emphasize the importance of maintaining faculty qualifications and providing opportunities for professional development.

In this regard, faculty development initiatives may include technical training, industry immersion, participation in professional activities, and the continuous improvement of instructional strategies. These opportunities can help instructors maintain current technical knowledge and strengthen the connection between classroom instruction and actual aviation maintenance practices.

3.3. Facilities

Table 6
Respondents' Perceptions of the Facilities of the AET Program

Indicators	Mean	Interpretation
1. The institution provides adequate avionics laboratory equipment for practical training.	3.26	Strongly Agree
2. The available training facilities simulate actual avionics maintenance environments.	3.23	Agree
3. The laboratory equipment supports hands-on learning of modern aircraft electronic systems.	3.30	Strongly Agree
4. The facilities allow students to practice troubleshooting and maintenance of avionics systems.	3.23	Agree
5. The available training equipment reflects current technologies used in the aviation industry.	3.17	Agree
Overall Weighted Mean	**3.24**	**Agree**

Table 6 presents the respondents' perceptions of the facilities available in the AET program. The overall weighted mean of 3.24, interpreted as Agree, indicates that the existing facilities are generally perceived to support practical learning. Laboratory equipment that supports hands-on learning of modern aircraft electronic systems obtained the highest mean (M = 3.30), followed by the adequacy of avionics laboratory equipment (M = 3.26). The availability of facilities that simulate actual maintenance environments and support troubleshooting activities both obtained a mean of 3.23. The extent to which training equipment reflects current industry technologies received the lowest mean (M = 3.17).

The results indicate that the available facilities provide a foundation for practical instruction in avionics systems. However, the comparatively lower rating for equipment reflecting current industry technologies suggests the need to regularly assess and update laboratory resources. Borgen et al. (2021) examined the use of augmented reality in aeronautical engineering technology education and explored its potential to support learning and task performance. Their research provides a relevant basis for considering technology-supported learning approaches in aviation-related programs.

Accordingly, the AET program may consider the regular assessment of laboratory equipment, the acquisition or upgrading of relevant avionics training resources, and the use of appropriate simulation technologies. These initiatives may strengthen practical learning opportunities and help maintain the relevance of training facilities to technological developments in the aviation industry.

4. Test of Significant Differences in the Knowledge and Performance Competencies Required by the Industry According to Respondents' Demographic Profile

4.1. According to Years of Industry Experience

Table 7

Results of the Kruskal–Wallis Test on Knowledge and Performance Competencies According to Years of Industry Experience

Variables	Kruskal Wallis H-Tab	p-value	Decision H0	Conclusion
Knowledge of aircraft systems	.483	.839	Accept H0	Not Significant
Troubleshooting skills	4.853	.183	Accept H0	Not Significant
Use of tools and equipment	3.350	.341	Accept H0	Not Significant
Maintenance documentation	1.418	.701	Accept H0	Not Significant
Safety procedures	.938	.816	Accept H0	Not Significant
*Significant @.05				

Table 7 Electronics Technicians reveals that the knowledge and performance competencies required in the aviation industry are generally recognized as relevant regardless of respondents' professional backgrounds. The demographic findings show that most respondents were Avionics Technicians (70.00%), had 1–2 years of industry experience (56.70%), and were employed in Maintenance, Repair, and Overhaul (MRO) organizations (36.70%). These characteristics indicate that the study obtained substantial insights from personnel directly involved in avionics-related technical operations. In terms of basic qualities, knowledge competencies obtained an overall weighted mean of 3.06, while performance competencies received a higher overall weighted mean of 3.17, both interpreted as Relevant.

This suggests that respondents place considerable importance on the practical application of technical skills, including avionics installation, maintenance, inspection, troubleshooting, and safety procedures, alongside the theoretical understanding of aircraft communication, navigation, electrical, and digital

avionics systems. Furthermore, the Kruskal–Wallis test revealed no statistically significant differences in respondents' assessments of knowledge and performance competencies when grouped according to years of industry experience, with p-values of 0.14 and 0.18, respectively.

This indicates that respondents generally share similar perceptions of the essential competencies required of Aviation Electronics Technicians, regardless of their length of professional experience. Overall, the findings suggest that the AET program should maintain a balanced emphasis on theoretical knowledge and practical performance competencies while continuously strengthening industry-based training, technical exposure, and curriculum relevance to prepare graduates for the demands of modern aviation operations.

4.2. According to Current Job Position

Table 8

Results of the Mann–Whitney U Test on Knowledge and Performance Competencies According to Current Job Position

Variables	Mann-Whitney U-Test	p-value	Decision H0	Conclusion
Knowledge of aircraft systems	542.500	.132	Accept H0	Not Significant
Troubleshooting skills	602.500	.340	Accept H0	Not Significant
Use of tools and equipment	635.000	.506	Accept H0	Not Significant
Maintenance documentation	686.500	.859	Accept H0	Not Significant
Safety procedures	635.000	.500	Accept H0	Not Significant
*Significant @.05				

Table 8 Electronics Technicians reveals that their assessments of the required knowledge and performance competencies remain generally consistent across different professional backgrounds. The demographic profile shows that the majority of respondents were Avionics Technicians (70.00%), had 1–2 years of industry experience (56.70%), and were employed in Maintenance, Repair, and Overhaul (MRO) organizations (36.70%). In terms of basic qualities, knowledge competencies obtained an overall weighted mean of 3.06, while performance competencies received a higher mean of 3.17, both interpreted as Relevant.

The results of the Kruskal–Wallis test further revealed no statistically significant differences in respondents' assessments when grouped according to years of industry experience ($p = 0.14$ for knowledge and $p = 0.18$ for performance) and current position ($p = 0.063$ for knowledge and $p = 0.333$ for performance), as all p-values exceeded the 0.05 level of significance.

Overall, the findings suggest that respondents, regardless of their years of experience and occupational positions, generally share similar perceptions of the essential knowledge and practical skills required of Aviation Electronics Technicians. The higher mean for performance competencies also highlights the importance of hands-on technical abilities, particularly in avionics installation, troubleshooting, maintenance, inspection, and safety procedures. Overall, the findings emphasize the need for an AET curriculum that provides balanced theoretical instruction and practical training to develop competent graduates who can meet the evolving technical demands of the aviation industry.

Table 9
Kruskal–Wallis Test Results on Knowledge and Performance Competencies According to Aviation Industry Sector

Competency Areas	Kruskal–Wallis H	df	p-value	Decision	Interpretation
Knowledge	6.82	4	.146	Fail to reject H_0	Not Significant
Performance	1.72	4	.787	Fail to reject H_0	Not Significant

Table 9 summarizes the results of the Kruskal–Wallis test examining differences in respondents' assessments of knowledge and performance competencies according to aviation industry sector. The results revealed no statistically significant differences in knowledge competencies, $H(4) = 6.82$, $p = .146$, and performance competencies, $H(4) = 1.72$, $p = .787$. Since both p-values exceeded the .05 level of significance, the null hypothesis was not rejected.

These findings indicate that respondents from different aviation industry sectors generally share similar assessments of the knowledge and performance competencies required of Aviation Electronics Technicians. This suggests that the identified competencies are relevant across commercial aviation, general aviation, maintenance organizations, approved training organizations, and aerospace manufacturing. Consequently, the AET curriculum should provide a common foundation of technical knowledge and practical skills while incorporating learning experiences that address the specific requirements of different aviation work environments.

5. Proposed Industry-Aligned Strategies for Improving the AET Program

The proposed strategies were developed based on the key findings of the study and are intended to guide the continuous improvement of the Aviation Electronics Technology program.

Table 10
Proposed Industry-Aligned Improvement Strategies Based on the Findings of the Study

Improvement Areas	Identified Areas for Improvement	Key Findings	Proposed Strategies
1. Curriculum Enhancement	Updating technical content, emerging avionics technologies, and practical applications	Respondents identified digital avionics and data bus architectures as areas requiring further emphasis. Practical training was also recognized as an area for improvement.	Conduct periodic curriculum reviews; integrate emerging digital avionics technologies and aircraft electronic systems; and strengthen the alignment of theoretical instruction with industry practices.
2. Faculty Capability Development	Technical expertise, instructional strategies, and industry exposure	Faculty members were positively evaluated in terms of technical knowledge and laboratory supervision,	Provide continuing professional development, specialized technical training, industry

		while teaching strategies presented an opportunity for further enhancement.	immersion, and opportunities to improve instructional approaches.
3. Modernization of Training Facilities	Updated equipment, current technologies, and realistic maintenance environments	Respondents generally viewed the facilities favorably but identified the need to ensure that laboratory equipment reflects current industry technologies.	Upgrade avionics laboratories and provide modern diagnostic, testing, and simulation equipment that support practical training.
4. Strengthening Industry Collaboration	Industry partnerships, professional engagement, and workplace exposure	The respondents represented various aviation-related sectors, highlighting the importance of maintaining alignment between program competencies and the diverse requirements of the aviation industry.	Establish stronger partnerships with aviation organizations, conduct industry consultations, invite industry practitioners for technical lectures, and develop collaborative training opportunities.
5. Expansion of Experiential Learning	Practical application, internships, and workplace exposure	Respondents recognized the relevance of installation, configuration, maintenance, and inspection competencies, emphasizing the value of practical learning experiences.	Strengthen internship and on-the-job training opportunities, expand hands-on laboratory activities, and provide supervised troubleshooting and maintenance exercises.

IV. CONCLUSIONS

The findings indicate that the Aviation Electronics Technology (AET) program provides relevant knowledge and performance competencies for graduates working in aviation-related organizations. Respondents generally expressed positive perceptions of the program's curriculum, faculty, and training facilities, suggesting that these components contribute to preparing graduates for industry-related responsibilities. However, the findings also identified opportunities to strengthen instruction in digital avionics, enhance practical training, improve teaching strategies, and ensure that laboratory equipment remains aligned with current aviation technologies. Furthermore, the statistical analyses revealed no significant differences in the assessed competencies when respondents were grouped according to years of industry experience, current position, and aviation industry sector.

These findings highlight the importance of continuously aligning the AET curriculum with technological developments and evolving workforce requirements. The program may benefit from regular curriculum evaluation, sustained faculty development, modernization of laboratory facilities, stronger partnerships with aviation organizations, and expanded experiential learning opportunities. These initiatives can help strengthen the connection between classroom instruction and actual aviation maintenance practices. The results also provide institutional decision-makers and program administrators with a basis for identifying priority areas for program enhancement and maintaining the relevance of AET education.

Future research may expand the scope of the study by involving a larger and more diverse sample of graduates from different institutions and aviation organizations. Subsequent studies may also incorporate perspectives from employers, industry practitioners, and faculty members to obtain a more comprehensive assessment of graduate preparation and program effectiveness. In addition, future research may examine the relationship between curriculum implementation, training resources, industry exposure, and graduates' workplace readiness using more extensive research designs. Such investigations can provide stronger evidence for developing responsive, industry-aligned strategies and sustaining the quality and relevance of Aviation Electronics Technology education.

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